

AMENDMENTS TO THE SPECIFICATION:

Page 1, amend paragraph in lines 5-8 as:

The invention relates to a method for carbon nanotube emitter surface treatment, which is used to increase the number of CNTs (carbon nanotubes) exposed on a field emission display (FED) device for advancing the current density and magnitude of CNT emitters.

Page 1, amend paragraph in lines 10-18 as:

To implement the possibility of displays planarization a flat panel display, the CNT-FED (carbon nanotube field emission display) adopts the technology of screen-printing process and FED display in the prior art. It not only keeps keep the image quality of a CRT display display, but also the advantage of power-saving and slim-volume, and with the characters of CNTs including low-conducting electronic field required, high density of emission current, and high stability. As a result, so it may offer a flat panel display display with good luminous efficiency, and large-size screen as well as with power-saving and low-cost.

Page 1, line 19 to page 2 line 12, amend the paragraph as:

Refer to FIG. 1, which is showing shows the luminous theory of the triode structure of a carbon nanotube field emitter display (CNT-FED) in the prior art. That is a kind of regular The display includes an array structure, which is used to raise the electronic energy up, advance the luminous efficiency, and diminish the control voltage. Wherein, the The manufacturing of the display structure based on the of CNT-FED

luminous theory includes including the processing steps of fabricating a cathode plate 102 above a substrate 101, and further depositing the nano-scale carbon nanotube on the cathode plate 102, that is a to serve as an electronic source 103. The cathode plate 102 connects with a gate 105 by a dielectric 104, and a voltage generated from the gate 105 is used to pull the electronics out of the cathode plate 102. ~~the~~ The current direction of the electronics from cathode plate 102 is as in the directions of arrows shown on FIG. 1. ~~Then, because~~ Because of an anode plate 107 set on the triode structure, the electronics emit from cathode plate 102 and impact on fluorescent screen 106. Finally, the display ~~it~~ generates the red, green and blue light through a glass plate 108.

Page 2, amend paragraph in lines 13-22 as:

In the prior art, when manufacturing the CNT emitters, the CNTs (Carbon Nano Tubes) and the organic matters are mixed to produce the CNT paste to be coated on the substrate and processed ~~performed~~ with masking by using the screen printing technology so as to form a field emission electronic ~~electronics~~ source. Therefore, the number of the CNTs exposed on the surface of the CNT layer is closely related ~~relative~~ to the density of the field emission current. It ~~will be the key point to affect~~ is the key factor that affects the current density of the field emission display. However, the drawback of the prior art is in the problem associated with ~~of~~ the uniformity of the field emission electronic ~~electronics~~ source.

Page 2, line 24 to page 3, line 7, amend the paragraph as:

In order to resolve the problem of the uniformity of the surface of the CNT layer of the CNT emitters in the prior art, ~~the~~ Samsung Electronic Inc. provides a ~~the~~ relative

technology where the laser scanning method is used for evening the surface. In US patent No. 6,436,221, assigned to the Industrial Technology Research Institute (ITRI) based in Taiwan and titled with “Method of Improving Field Emission Efficiency for Fabricating Carbon Nanotube Field Emitters,” the a manufacturing process for improving the field emission efficiency of the CNT electronic electronics source is provided.

Page 3, cancel paragraph in lines 8-12.

Page 3, amend paragraph in lines 15-23 as:

It is a primary object of the present invention to provide a method for carbon nanotube emitter surface treatment, which is used to increase the number of carbon nanotubes nanotube exposed on the triode structure device. For advancing the current density and intensity of CNT emitters, the invention uses a method of casting surface treatment on the CNT emitters including the steps of coating an adhesive material on the surface of device; heating the adhesive material for adhibitting the surface; and lifting the adhesive material off.

Page 3, add the following paragraph after line 23:

The casting surface treatment of the present invention can process the CNT electronic eleetronics source in the triode or any structure to and improve the uniformity of the surface of the CNTs on the carbon nanotube field emitter display in any kind of structure, and then increase the number of the CNTs exposed on the device.

Page 5, amend paragraph in lines 8-15 as:

In the triode structure of carbon nanotube field emission display (CNT-FED), the invention adopts a method for casting surface treatment to increase the number of carbon nanotube nanotubes exposed on the surface of the device. And the invention also can advance the current density and intensity of the CNT emitters in the gate hole formed around the CNT electronic source in the triode or any structure of CNT-FED, then so that the CNT emitters can emit the electronics in high-density and great-intensity uniformly.

Page 5, line 17 to page 6, line 7, amend the paragraph as:

Please refer to FIG.2A to FIG.2C, which are schematic diagrams showing the method for carbon nanotube emitter surface treatment in accordance with the first preferred embodiment of the present invention. ~~There is showing~~ The figures show a triode structure of CNT-FED using the manufacturing process of semi-conductor thin film. First, ~~refer with reference~~ to the FIG.2A, there is a two-dimension distribution cathode plate 203 fabricated ~~fabricating~~ on a glass substrate 201, and there is a dielectric 205 between the glass substrate 201 and a gate 207 of the triode CNT-FED. When there exists electric charges on the gate 207, some free electrons will be pulled ~~pull~~ out from the cathode plate 203. Then these free electrons will move on ~~to~~ the way to gate 207, and become an electronic channel. Furthermore, there are carbon nanotubes deposited ~~depositing~~ above the cathode plate 203, ~~and generating~~ to generate a greater current density, more powerful intensity CNT electronic ~~electronics~~ source 209.

Page 6, amend paragraph in lines 8-24 as:

In FIG.2A, there is a dispenser 211, ~~and for~~ coating an adhesive material 213 on the surface of the CNT-FED structure. The method of the invention is not ~~doesn't~~ limited

by the area size to be coated, and the adhesive material 213 is not only sticky but also impervious to the device. The adhesive material 213 may, that could be a thermal adhesives or a soluble material, an organic material, an inorganic material or a strippable material. Refer to FIG.2B, that is showing shows a step of melt of melting the adhesive material 213. As, as the adhesive material 213 is heated, then it will be soften and attached on the triode structure surface of the CNT-FED closely and uniformly. After the process of coating, melting and attaching the adhesive material 213 and melt to attach the surface of device, next, lifting the adhesive material 213 is lifted off from the surface of the CNT-FED, especially from the surface of the CNT electronic source 209 above the that device as showed in FIG. 2C. For improving the luminosity and uniformly display uniformity of the display panel as the electronics impact the fluorescent screen on the anode plate, the step of lifting the adhesive material off can remove the impurity, which affects the electronics emission, from the surface of the CNTs, and increase the number of carbon nanotube nanotubes exposed on the triode structure device.

Page 7, amend paragraph in lines 1-10 as:

The FIG.3A to FIG.3D are the schematic diagrams showing the method for carbon nanotube emitter surface treatment in accordance with the second preferred embodiment of the present invention. In these diagrams, there is a cathode plate 303 fabricated fabricating on a substrate 301, and there is a dielectric layer 305 deposited between the a cathode plate 303 and the gate 307 of the triode CNT-FED. Furthermore, there is a CNT layer 309 deposited as a carbon nanotube electronic source which and is

set between the cathode plate and the gates ~~existed~~ in the said triode structure, wherein the CNT layer 309 mentioned above is the CNT ~~electronics~~ source 309 electronic source.

Page 7, line 11 to page 8, line 1, amend the paragraph as:

In FIG.3A, which shows ~~is showing~~ the step of coating an activator 311 on the surface of the CNT-FED triode structure, the activator 311 may ~~could~~ be an interface activator, a surfactant or any release agent, and the activator 311 is used to prevent too closely ~~close~~ sticky between the adhesive material 313 and dielectric layer 305 in the gate hole. ~~Next, refer to~~ FIG.3B, ~~which is~~ shows the step of coating an adhesive material 313 on the activator above the CNT-FED triode structure. The process showed on FIG.3C is a step of pressing the adhesive material 313 for adhibitting the device surface closely by a laminator. ~~The, otherwise,~~ the adhesive material 313 may ~~could~~ be the thermal adhesives or a soluble material, an organic material, an inorganic material or a strippable material. Please ~~refer to~~ FIG.3D, ~~which is~~ shows the step of lifting the adhesive material 313 off from the triode surface of CNT-FED, i.e. lifting the impurity or any other adhesion, which ~~will~~ may affect the electronic ~~electronics~~ emission density and intensity of the CNT electronic ~~electronics~~ source 309, off from the device surface.

Page 8, cancel paragraph in lines 2-7.

Page 8, amend paragraph in lines 8-13.

According to the above discussion, the present invention discloses a method for carbon nanotube emitter surface treatment, which adopts a method of casting surface treatment on the CNT emitters for increasing ~~used to increase~~ the number of carbon

nanotube nanotubes exposed on the triode structure device, and then advancing the current density and intensity of the CNT emitters.